Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Savannah River** Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site** HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

The general scope of this project is to convert (stabilize) certain "at risk" legacy nuclear materials to forms suitable for long term storage, transfer these materials to the designated storage location and prepare facilities for deactivation. The sudden halt in nuclear materials production at the end of the Cold War suspended the manufacturing pipeline in a state that, for safety reasons, could not be allowed to remain uncorrected. Utilizing existing facilities, specifically designed for processing these legacy materials and with a proven history of safe operation, optimizes material stabilization. The material stabilization portion (excluding final packaging) of this project began in 1995 and is planned for completion in 2003 for the currently identified materials. DOE is evaluating the possibility of transferring additional material from other sites to SRS for stabilization, possibly extending the time line for this project.

Following stabilization, materials (primarily plutonium) will be temporarily stored in the FB-Line and 235-F vaults until they can be transferred to a new Actinide Packaging and Storage Facility starting in 2006. Following vitrification, Americium/Curium (Am/Cm) will be shipped to Oak Ridge. This plan supports the DOE's strategy for implementation of the Defense Nuclear Facilities Safety Board's (DNSFB) Recommendation 94-1; however, funding limitations and technical issues with some materials have impacted schedules.

Also included in the scope is the safe Surveillance and Maintenance of F-Canyon, FB-Line, and 235-F. S&M includes security, radiation protection, material control and accountability, trained and certified operations and maintenance personnel, essential safety system operation, emergency response capability, material and environmental sampling and monitoring, configuration management, fire protection and maintenance of the Safety Authorization Basis, etc. Various Capital Equipment (CE) and General Plant Projects (GPP) will be funded in support of F-Area S & M and stabilization programs. However, Capital Project funding in FY 1999-2001 is not sufficient to support the desired level of capability assurance.

Building 235-F vault will remain operational; transferring, receiving and/or storing Special Nuclear Material. The 235-F process and lab areas will be maintained in a safe and environmentally sound shutdown condition until fully deactivated.

Technical Approach: The conversion of "at risk" material to more stable and manageable forms will utilize the proven PUREX Process and various new technologies. New technologies include the bagless transfer and packaging of plutonium. A new vitrification process will be used for encapsulation of Am/Cm solution in glass. A new measurement technology for assaying and characterizing the contents of radioactive containers will be used. Plutonium solutions will be converted to metal. The plutonium metal will be transferred to the new (2006) Actinide Packaging and Storage Facility (SR-NM06) where it will be packaged and stored according to requirements of DOE storage standards. Depleted uranium (DU) solutions will be converted to uranium oxide either by an offsite vendor (preferred option) or in FA-Line and add to the current DU oxide inventory. Plutonium residues will be characterized in descending order of risk potential as operational capabilities permit. If an unsafe condition is determined, the material will be processed and repackaged to meet existing storage or disposal criteria.

The stabilization scope includes materials identified in the original DNFSB 94-1 Implementation Plan (IP), emergent needs such as failed research reactor fuel, material added by RFETS Residues EIS ROD, material added by 94-1 IP Rev.1, material added at DOE-SR request and material expected from SRS SNF EIS. Materials targeted for stabilization in F-Area include: 1. Plutonium solutions in F-Canyon (completed in 1996). 2. Plutonium

Project Description Narratives

oxide and metal. 3. Americium / Curium (Am/Cm) solution and Mk-18 targets. 4. Failed plutonium / depleted uranium targets stored at SRS. 5. Plutonium (mixed) residues. 6. Depleted uranium solutions. 7. RFETS Pu residues (SS&C, scrub alloy, fluorides). 8. RFETS classified Pu metal and components (ROD required). 9. Hanford Pu residues (NEPA evaluation required). 10. LANL Pu oxide.

Project Status in FY 2006:

The conversion of the nuclear materials currently assigned to F-Area chemical separation facilities to forms suitable for long term storage will be complete. The metal and oxides will be stored temporarily in FB-Line and 235-F vaults. The final deinventoring of these vaults to the new APSF facility (Project SR-NM06) will begin in FY 2006. After transfer to APSF the plutonium metal and oxide will be repackaged to comply with DOE-STD-3013-96, Criteria for Preparing and Packaging of Plutonium Metals and Oxides for Long Term Storage. This is the final step in complying with the plutonium stabilization commitments to the DNFSB.

The 211-F facility will continue to receive and treat laboratory radioactive waste until new facilities to divorce this task from F-Canyon are constructed in 2007-2009. Project development, SR-NM05, for the new facilities to divorce waste treatment from F-canyon will begin in 2006, assuming this is the earliest that funding can be made available.

When DOE suspended chemical processing operations in March 1992, approximately 300,000 liters of depleted uranium solution remained in canyon storage tanks. The plan was to disposition all the DU solution by blending it with H-Canyon HEU solution to produce low enriched uranium (LEU) for eventual use as commercial reactor fuel. This is no longer the plan due to the impurity/isotopic composition of the resulting LEU solution. The DU may still be used to blend the SRS HEU to LEU if an agreement can not be reached with TVA for comercial use of the blended HEU. In either case, the DU must be converted to an oxide before deactivation of F-Canyon can be completed. This will require the restart of FA-Line or shipment off site for conversion by a vendor and then return to SRS for storage. The DOE funding targets do not support DU conversion until FY 2007. The criteria for preparing to restart FA-Line in 2007 are unknown, but restart is expected to take several years.

As additional DU is produced from stabilization operations in F-Canyon, the concentration of DU in storage has increased to a point where periodic plugging of monitoring instrumentation is occurring. Additional storage is necessary to eliminate this plugging and improve material management. The $3.6 million needed in FY 2001 for this storage is not included in the Planning Case. If a creative solution can not be found that requires no additional funding, this funding will also be needed in FY 2001.

If SRS has not been assigned any of the proposed or potential additional missions beyond the baseline program, as process areas complete their stabilization mission they will seamlessly transition to deactivation activities/planning. Efforts will be made to complete the required deactivation planning for each process prior to completing operation. By 2005, F-Area deactivation planning will be complete and deactivation of some process areas will have begun. If F-Area chemical separation facilities are used for additional missions, facility operations would be significantly extended and final deactivation would be postponed until the additional stabilization mission(s) is completed.

Post-2006 Project Scope:

The transfer of nuclear materials from FB-Line and 235-F vaults to APSF will continue into FY 2008. Construction of new Independent Waste Handling Facilities, SR-NM05, to replace 211-F lab waste treatment will be complete as early as FY 2009, assuming funding is available in FY 2006. SR-NM01 project completion is projected for 2009. Deactivation planning will be complete and all the facilities will have seamlessly transitioned to

Project Description Narratives

deactivation activities. These facilities will then be transferred to the appropriate PtC project(s) for final deactivation and monitoring at the end of FY 2009. The F-Area chemical separation facilities will move toward final decommissioning under these deactivation projects if additional stabilization or recovery missions have not been assigned.

Project End State

The stabilization of the materials currently approved for F-Area chemical separation facilities will be complete. The facilities have been deinventoried, flushed and transferred to the appropriate deactivation and surveillance project(s). This will mark the end of the F-Area Stabilization Project.

Cost Baseline Comments:

If the funding levels of this or related projects (SR-NM02, SR-NM03 and SR-NM05) are reduced from the requested levels, the scope and commitment dates will not be achievable. The current funding level for this project may not support scope or milestone commitments made under previous requests. FY 2000 funding limitations have extended the schedule for PtC Project SR-NM03 which provides the necessary capacity for repackaging and storing the stabilized materials. This has extended the completion date for this project. The proposed F-Area Stabilization Project funding supports the safe Surveillance and Maintenance of F-Canyon, FB-Line, 235-F and progress toward the stabilization of "at risk" nuclear materials per DOE's Implementation Plan for the DNFSB's 94-1 Recommendations and the seamless transition to deactivation activities upon completion of material stabilization.

Facility operation is not assured for all of FY 2001 at the allocated target funding level.

The full cost of PBS work scope may change based on the authorized funding and priorities in any given year due to changes in site overhead assumptions. For planning and budgeting purposes, work scope costs were estimated using site overhead rates sized for clearance at a funding target of $1222.5 million. For FY 2001 (the budget year), the site overhead is applied and cleared at the funding target, while the work scope below the funding target (planning level) is incremental direct cost. For FY 2002 and beyond, the site overhead is applied and cleared over the total planning level of scope.

Safety & Health Hazards:

The Defense Nuclear Facilities Safety Board (DNFSB) issued Recommendation 94-1 on May 26, 1994. The DNFSB noted its concern that the sudden halt in the production of nuclear weapons materials froze the manufacturing pipeline in a state that, for safety reasons, should not be allowed to go uncorrected. Specifically, the DNFSB expressed safety and health concerns associated with the liquids and solids containing fissile materials trapped in spent fuel storage pools, reactor basins, reprocessing canyons, and various other facilities at SRS and other DOE sites. Many of these materials are packaged in configurations that are not suitable for extended storage. Other materials remain in the processing systems where they were when production stopped. These materials pose a number of potential hazards if not handled and stored properly including criticality, the spread of radioactive contamination and exposure of workers to radiation. The DOE submitted its Implementation Plan (IP) for the Remediation of Nuclear Materials in the Defense Nuclear Facilities Complex on February 28, 1995 and updated it on December 22, 1998. The IP calls for the conversion of the "at risk" nuclear materials to forms suitable for extended storage and the packaging of these materials to conform with DOE Standards. Capital Project funding is not sufficient to support the desired level of capability assurance. Each year the risk of an unscheduled outage due to equipment failure will increase as spares are consumed and not replaced and equipment continues to age.

Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Savannah River** Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site** HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Project Description Narratives

Safety & Health Work Performance:

Activities and checkpoints are described by the SRS Integrated Management System and specifically controlled by the SRS Work Control System. The conditions and requirements are clearly established and agreed upon prior to the starting of any project and those requirements are contractually binding upon WSRC. WSRC uses the Integrated Safety Management System (ISMS). The key elements of ISMS are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the Integrated Safety Management System. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, discipline site-wide approach to safety while performing work.

PBS Comments:

The chemical re-processing facilities covered by this project are located in F-Area. Chemical separation and stabilization of legacy nuclear materials are accomplished in facilities known as Canyons and B-lines, which are supported by ancillary facilities that provide further chemical conversion, cold chemical feeds, or general facility services. The facilities covered by this project are: F-Canyon and supporting facilities, FB-Line and 235-F Vault. The guiding principles for the execution of this project are to manage and eliminate the most serious risks, protect the workers` health and safety during operation, minimize the generation of waste, create a collaborative relationship between DOE and its regulator and stakeholders, focus technology development on cost and risk reduction, and strengthen management and fiscal control. Material stabilization activities will be performed in accordance with the Phased Canyon Strategy as approved by the Secretary of Energy on July 17, 1997. The scenario involves processing in F Canyon and FB-Line with related processing in H-Area facilities and consolidation of solid, stabilized special nuclear materials in the new Actinide Packaging and Storage Facility (Project SR-NM03). The F-Area portion of the schedule includes the following key activities:
1997 - Complete stabilization of Mk31 targets. Begin the transfer of DU solutions from F Area to H Area. Complete the installation of Bagless Transfer System in FB-Line. Continue stabilization of Pu bearing residues. Continue design and installation of Am/Cm process.
1998 - Continue the transfer of DU from F to H-Canyon for down blending of HEU. Continue with characterization project for nuclear material in inventory. Continue repackaging in the FB-Line bagless transfer system. Continue design/installation work on Am/Cm vitrification. Continue with support for stabilization effort of Pu residues (Sand, Slag and Crucible - sweepings, etc.).
1999 - Continue installation activities for Am/Cm vitrification. Continue stabilization activities (characterization and processing) on Pu solids and residues. Complete shipments of miscellaneous material to H Area for stabilization processing. Continue to transfer DU solutions to H Area.
2000 - Startup and complete vitrification of Am/Cm. Continue characterization activities on material in inventory. Continue transfer of DU solution to H Area. Complete stabilization activities (processing) of Pu solids and residues. Continue characterization activity.
2001 - Continue characterization in FB Line. Continue to transfer DU solutions to H Area.
2002 - Complete characterization in FB-Line and transfer stabilized nuclear material from FB-Line and 235F to new vault for interim storage. Complete transfer of DU solutions to H Area.
2003 - Place facilities in a safe condition that supports LTS&M, deactivation planning or supplemental mission activities.
2004 - Transfer to Long Term Monitoring.

Baseline Validation Narrative:

An internal DOE-SR/WSRC validation is scheduled for the spring of 1999. A formal DOE-HQ validation is expected in 2000.

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

General PBS Information

Project Validated?

Date Validated:

Has Headquarters reviewed and approved project? No

Date Project was Added: 12/1/1997

Baseline Submission Date: 7/3/1999

FEDPLAN Project? Yes

Drivers:

CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
N	N	Y	N	N	N	Y	Y

Project Identification Information

DOE Project Manager: Gordon M. Nichols, Jr.

DOE Project Manager Phone Number: 803-952-2021

DOE Project Manager Fax Number: 803-952-2495

DOE Project Manager e-mail address: gordon.nichols@srs.gov

Is this a High Visibility Project (Y/N): Y

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	1,983,190	443,000	2,426,190	170,317	170,317	173,862	173,862	187,877	203,403	223,231	216,000	223,000	212,500	195,000	178,000
PBS Baseline (constant 1999 dollars)	1,820,583	343,616	2,164,199	170,317	170,317	173,862	173,862	187,877	196,335	207,986	195,958	196,990	182,780	163,318	145,160
PBS EM Baseline (current year dollars)	1,983,190	443,000	2,426,190	170,317	170,317	173,862	173,862	187,877	203,403	223,231	216,000	223,000	212,500	195,000	178,000

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS EM Baseline (constant 1999 dollars)	1,820,583	343,616	2,164,199	170,317	170,317	173,862	173,862	187,877	196,335	207,986	195,958	196,990	182,780	163,318	145,160

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	174,000	144,000	125,000	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	138,168	111,340	94,108	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	174,000	144,000	125,000	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	138,168	111,340	94,108	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

Project Reconciliation

Project Completion Date Changes:

Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Savannah River** Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site** HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Project Reconciliation

Previously Projected End Date of Project: 9/30/2003

Current Projected End Date of Project: 9/30/2009

Explanation of Project Completion Date Difference (if applicable):

Insufficient FY1999 & 2000 funding allocations and low FY2001-2006 funding targets have and/or will delay related projects (SR-NM03 and SR-NM05) necessary to complete this stabilization project, extending project completion by an estimated 6 years. It has been assumed that FY2001 funding for SRS will exceed the proposed target cap and funding beyond FY2006 will not be limited to current levels. If these assumptions prove to be incorrect then the LCC of this project will increase even more. Also a shift in the method for stabilization of depleted uranium solutions also added to the project scope and duration.

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	1,205,751	**Actual 1997 Cost:**	170,317	**Actual 1998 Cost:**	173,862
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	861,572	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**			23,262
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	884,834				

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):		
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):	52,565	Conversion of DU solution to oxide instead of blending and shipping to TVA.
Cost Growth Associated with Scope Previously Reported (+):	882,621	LCC due to funding forced delays in projects for material storage & Lab waste treatment facilities.
Cost Reductions Due to Science & Technology Efficiencies (-):		PUREX process and new technologies including vitrification, repackaging, and nonintrusive monitoring
Subtotal:	1,820,020	
Additional Amount to Reconcile (+):	0	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**1,820,020**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Complete Am/Cm solution stabilization. (Date TBD	SR-NM01-005		9/30/2002					Y			

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
following 6/99 rebaselining).											
Decision and Disposition of HEU from Other Locations	SR-NM01		9/1/2000								
Project Mission Complete	SR-NM01-099		9/30/2009								
Start vitrification of Am/Cm solutions.	SR-NM01		1/1/2000								
Complete packaging of existing plutonium metal through bagless transfer system.	SR-NM01-002		9/30/1999						Y		
SR-NM01 F-Stabilization Project Start	SR-NM01-001		10/1/1996								
Issue Matl Mgt Plans Rev 1 and Master Matl Mgt Plan	SR-NM01-003		9/30/1999								
Complete FY1999 Nuclear Matl Inventory Assessment	SR-NM01-004		2/28/2000								
Complete Dissolution of RFETS SS&C	SR-NM01-006		8/31/2001								
Complete direct casting of RFETS Pu metal. (NEPA Decision required).	SR-NM01-007		3/31/2003								

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Complete Am/Cm solution stabilization. (Date TBD following 6/99 rebaselining).	SR-NM01-005										Am/Cm solutions held in 221-F have been vitrified
Decision and Disposition of HEU from Other Locations	SR-NM01									Y	Not a SEG milestone. Program for HEU stabilization
Project Mission Complete	SR-NM01-099				Y						Scope of the F-Area Stabilization project has been completed. In addition, completion and closure of this project is dependent on successful startup of the F-Area Independent Waste Handling Facility. No SEG milestone.

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
											Linked to and dependent on recei
Start vitrification of Am/Cm solutions.	SR-NM01									Y	Startup preparations for vitrification of Am/Cm solutions in 221-F requires modifications which can be impacted by funding limitations in FY 2000. This activity covered by DNFSB milestone SR-NM01-006.
Complete packaging of existing plutonium metal through bagless transfer system.	SR-NM01-002										F-Area Stabilization Project: All metal (existing) will be packaged using the FB-Line bagless transfer system. SEG milestone = NMC14. Wording updated for clarity.
SR-NM01 F-Stabilization Project Start	SR-NM01-001			Y							Initiation of the F-Stabilization project under EM Program. No SEG milestone.
Issue Matl Mgt Plans Rev 1 and Master Matl Mgt Plan	SR-NM01-003										Issue Material Management Plans Rev 1 and Master Material Management Plan. SEG milestone = MMC01.
Complete FY1999 Nuclear Matl Inventory Assessment	SR-NM01-004										Complete the FY1999 Nuclear Material Inventory Assessment. SEG milestone = MMC02.
Complete Dissolution of RFETS SS&C	SR-NM01-006										All RFETS SS&C shipped to SRS will have been charged to a dissolver. SEG milestone = NMC10.
Complete direct casting of RFETS Pu metal. (NEPA Decision required).	SR-NM01-007										All RFETS direct casting material shipped to SRS w

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 20(
NM														
Stabilized - Pu Sol.	L	34,000.00	0.00	34,000.00							8,500.00	25,500.00		
NM														
Stabilized - Pu Res.	Kg/B	4,035.00	0.00	4,035.00	0.00		0.00	37.00	746.00	1,081.00	1,016.00	414.00	436.00	305.(
NM														
Stablilized - Pu Metal/Oxides	Ncont	1,531.00	0.00	1,531.00	0.00		0.00	80.00	132.00	80.00	82.00	893.00	138.00	76.(
NM														
Stabilized - U Sol.	L	530,000.00	0.00	530,000.00							95,000.00	194,000.00	194,000.00	47,000.(
NM														
Stabilized - Other NM Sol.	L	33,700.00	0.00	33,700.00		13,300.00						14,400.00		1,000.(
NM														
Stablilized - Other NM	HU	19,730.00	0.00	19,730.00	0.00	15,966.00	0.00	147.00	496.00	1,091.00	1,425.00	528.00	67.00	10.(
NM														
MDR - Pu	Ncont	1,158.00	0.00	1,158.00										
NM														
MDR Onsite - U Sol.	L	3,474,257.00	0.00	3,474,257.00						286,701.00	584,652.00	1,490,552.00	888,752.00	223,600.(
NM														
MDR - Other NM Solution	L	7,800.00	0.00	7,800.00					7,800.00					
NM														
MDR - Other NM	Ncont	684.00	0.00	684.00		44.00								240.(

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planne 20(
Tech.														
Deployed	Ntd	3.00	0.00	3.00					2.00		1.00			

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
NM													
Stabilized - Pu Sol.	L												
NM													
Stabilized - Pu Res.	Kg/B	305.00											
NM													
Stablilized - Pu Metal/Oxides	Ncont	76.00	50.00										
NM													
Stabilized - U Sol.	L	47,000.00											
NM													
Stabilized - Other NM Sol.	L	1,000.00	4,000.00	1,000.00									
NM													
Stablilized - Other NM	HU	10.00											
NM													
MDR - Pu	Ncont		922.00	236.00									
NM													
MDR Onsite - U Sol.	L	223,600.00											

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
NM													
MDR - Other NM Solution	L												
NM													
MDR - Other NM	Ncont	240.00	225.00	175.00									
Tech.													
Deployed	Ntd												

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
NM										
Stabilized - Pu Sol.	L									34,000.00
NM										
Stabilized - Pu Res.	Kg/B									3,257.00
NM										
Stablilized - Pu Metal/Oxides	Ncont									1,524.00
NM										
Stabilized - U Sol.	L									530,000.00
NM										
Stabilized - Other NM Sol.	L									20,400.00
NM										
Stablilized - Other NM	HU									3,447.00
NM										
MDR - Pu	Ncont									1,158.00

Project Baseline Summary Report

Data Source: **EM CDB**

Report Number: **GEN-01b**

Operations/Field Office: **Savannah River**

Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site**

HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total
NM										
MDR Onsite - U Sol.	L									3,474,257.00
NM										
MDR - Other NM Solution	L									0.00
NM										
MDR - Other NM	Ncont									640.00
Tech.										
Deployed	Ntd								2.00	3.00

Technology Needs

Site Need Code: SR99-5003

Site Need Name: Non-Destructive Assay (NDA) of Vitrified Americium/Curium

Focus Area Work Package ID:

Focus Area Work Package:

Focus Area:

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Needs

Site Need Code: SR99-5006

Site Need Name: Hydrogen Gas Measurement in Remote Nitric Acid Atmospheres

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5007

Site Need Name: Effective and Reasonably Rapid Dissolution of High Fired Pu Oxide

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5010

Site Need Name: Americium/Curium Vitrification System

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Savannah River** Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site** HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Technology Needs

Site Need Code: SR99-5011

Site Need Name: Am/Cm Packaging

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5012

Site Need Name: Depleted Uranium Trioxide Utilization

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5016

Site Need Name: Non-Destructive Assay (NDA) of Am/Cm Streams during Processing

Focus Area Work Package ID: **Focus Area Work Package:**

Focus Area: **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Needs

Site Need Code: SR99-5017

Site Need Name: Impact of Radiolysis Gas on Sealed Storage Containers

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5018

Site Need Name: Gas Generation During Shipping and Storage of Residue Materials

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Needs

Site Need Code: SR99-5019

Site Need Name: Prevention of the Precipitation of Unwanted Solids during Canyon Dissolution

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5020

Site Need Name: Dissolution of Plutonium Metal with Minimal Hydrogen Generation

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5021

Site Need Name: Removal of Fluoride Ion from Acid Solutions for Recycle and Reduction of Waste Volume

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Cost

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Project Baseline Summary Report

Technology Needs

Site Need Code: SR99-5022

Site Need Name: Identify and Develop a Better Process to Remove Residual Pu from U Metal

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5023

Site Need Name: Aqueous Processing of Chloride-Bearing Plutonium Residues in Existing Facilities

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Site Need Code: SR99-5024

Site Need Name: Complete Material Identification and Surveillance Studies

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Savannah River** Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site** HQ ID: **0487**

Project **SR-NM01 / F-Area Stabilization Project**

Technology Needs

Site Need Code: SR99-5025

Site Need Name: Moisture Analysis Methods for Impure Plutonium Materials

Focus Area Work Package ID: Pu-02-Stabilization **Focus Area Work Package:** Miscellanous Pu Residue Stabilization and Disposition

Focus Area: PLUTOFA **Agree with Technology Link:** Y

Benefits (Cost, Risk Reduction, Both): Risk Reduction

Technologies	Cost Savings (in thousands of dollars)	Range of Estimate

Technology Deployments

	Deployment Year		
Deployment Status	**Planned**	**Forecast**	**Actual Date**
Technology Name: Am/Cm Vitrification Melter			
Potential Deployment	2001		
Technology Name: HEPA Waste Bag			
Potential Deployment	1999		
Technology Name: Remote Camera			
Potential Deployment	1999		